POSITION DESCRIPTION

PD Tracking Number WW30123

Series, Title and Grade 0802 Electrical Engineering Technician GS-12

Department National Capital Region (NCR)

Introduction Statement

The incumbent serves as an electrical engineering technician with normal supervision by the Supervisory Electronics Technician, GS-0802-13; in the Maintenance and Engineering Section, responsible for providing technical and management support to the operation of the major heating and refrigeration plants and their distribution systems under the Heating Operation and Transmission District.

Cyber Statement - This position is designated with Cybersecurity Data Element Codes 000,000,000 based on requirements in the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework, 11/2/16.

1-Non-Sensitive, Public Trust, 1, “Low Risk”, Tier 1, NACI, SF-85

FLSA DETERMINATION: The NCC has determined this does not meet any exemption criteria of the Fair Labor Standards Act (FLSA). FLSA: Non-Exempt

Major Duties

Performs trouble shooting and repair of controls, instrumentation, emission monitoring devices, distributive control systems and other electrical/electronic equipment within the plant or steam. tunnel complex.

Performs calibration of controls, instrumentation, emission monitoring devices, distributive control systems and other electrical/electronic equipment within the plant or steam tunnel complex

Performs boiler and chiller electrical equipment and controls systems surveys. Survey information is used for analysis of plant operation and maintenance practices and procedures.

Participates in the quality assurance program for the meters in the HOTD facilities. Responsible for periodic inspection and or repair of controls, instrumentation, electrical, emission monitoring and pollution control equipment such as electrostatic precipitators.

Participates in the inspection program for the preventive maintenance performed on the electrical/electronic systems in the HOTD facilities.

Makes detailed sketches and working drawings of improvement projects to be accomplished either by contract or by electrical forces. Prepares statements of work for the Contract Specialists' use when detailed specifications are required.

Performs surveys to secure data necessary for the preparation of plans, contract drawings, and specifications.

Provides technical support and field expertise for trouble shooting and repair of controls, instrumentation and emission monitoring devices, distributive control systems and other electrical/electronic equipment.

Makes frequent inspections of all phases of work, conducts engineering tests, furnishes technical assistance to supervisors and initiates or recommends corrective action or improvements in the operation, maintenance, repair and administration of the plant.

Takes the lead in start-up and testing of major new systems of electric equipment to ensure that correct procedures are used and that all manufacturers recommendations are followed. Ensures that plant operators are familiar with the systems or equipment.

Performs boiler and chiller electrical equipment and controls systems analyses to improve plant operation and maintenance practices and procedures and identifies and develops implementation plans for alternative measures which will enhance the efficiency and cost effectiveness of the plant operation.

Monitors testing programs such as emissions monitoring testing data, recording and analysis on electric equipment. Develops programs for regular preventive maintenance and prepares schedules for systematic repairs to all electrical equipment.

Participates in the inspection program for the preventive maintenance performed on the electrical/electronic systems in the HOTD facilities and prepares reports for program effectiveness and preparedness at the start of heating or cooling seasons.

Periodically reviews and updates existing maintenance procedures and recommends any changes to the maintenance frequencies. Develops maintenance procedures for new systems and equipment in plants and distribution systems.

Develops updates to be used for revising electrical and controls schematics and drawings as plant systems are renewed or modified. These updates are incorporated in existing drawings utilizing the CAD/CAM system.

Performs other related duties as assigned.

Narrative Statement

Factor 1. Knowledge Required by the Position

Mastery knowledge of electrical/electronic engineering principles, concepts, and practices with emphasis on electrical and electronics systems, controls, and distributive control systems associated with high pressure boilers and industrial refrigeration equipment.

Knowledge of high pressure steam plant and refrigeration plant operations, including maintenance, repair, and construction procedures.

Knowledge of practices, methods, techniques, and application of safety policies, procedures, and guidelines to work conditions, work practices, and protective equipment used in plants and their distribution system loads. This involves an overall knowledge of engineering dynamics for both plants and buildings.

Knowledge of analysis techniques such as life cycle economics, reliability analyses, and fuel contingency analyses.

Factor 2- Supervisory Controls

Supervisor provides the incumbent with overall objective, and very general guidance on critical issues and policy direction. The incumbent establishes priorities and sets deadlines for the accomplishment of his tasks. The incumbent determines the approach of the implementation of the task and completes the task with little or no guidance. The incumbent discuses with the supervisor broad technical phases and progress on the task and the budgetary impact. By the established deadline of the task, the supervisor is provided with a completed and technically correct product. Incumbent's work is reviewed from an overall standpoint of effectiveness in meeting the specified requirements.

The incumbent is responsible for planning and carrying out all assignments; resolving most conflicts which arise; and coordinating the work with engineers and technicians.

Factor 3- Guidelines
Since GSA policies and procedures are primarily tailored to commercial sector buildings, specialized guidelines and procedures must be developed for the plants and their distribution systems, and the operational constraints which all must be factored into the development and evaluation of projects for the plants.

The incumbent must independently develop guidelines and procedures that are tailored to the plants and their distribution systems within the general intent of GSA policies and procedure. When required guidelines for the plants and their distribution systems are in conflict with GSA policies and procedures, the electrical engineering technician researches and analyzes the issue, develops proposed guidelines, and through his supervisor coordinates the process to effect the implementation of the change.

Factor 4- Complexity
Responsibilities involve a wide range of critical mechanical and electrical systems, the interaction of these systems, and the operational constraints which all must be factored into the development and evaluation of projects for the plants.

The incumbent must independently evaluate complex technical issues through obtaining data from professional organizations, other Government agencies, and the manufacturers and users in the private sector. The interaction of electrical/electronic systems are also very complex with the control often being a mixture of pneumatic, electric, electronic and hydraulic subsystems of varying manufacture.

Responsibilities also involve solutions which are in compliance with occupational safety and health equipment and environmental regulations.

Factor 5 - Scope and Effect
The purpose of this work is to provide technical support for the plants and their distribution systems which provide critical heating and cooling services to Government operations in the Washington D.C area. Results of these duties effect the efficient, safe, reliable and cost effectiveness of providing these services. The technical assistance on the safety program results in reductions in employee lost time and equipment damage and in increased plant reliability. The implementation of duties on projects and long term engineering planning analyses results in improvements in assuring reliable operation in a cost effective, efficient, safe, and environmentally acceptable manner.

Factor 6 - Personal Contacts
The incumbent contacts managers, supervisors, and engineers in the Public Buildings Service in both the region and Central Office and the Federal Supply Service in the region. Private sector personnel and personnel in other Government agencies are contacted on the evaluation of electrical equipment and systems. Contacts are with contractors, COTR's and other quality assurance engineers, other GSA personnel, architects/engineers, and manufacturers' personnel.

Factor 7 - Purpose of Contacts
The purpose of contacts is to obtain technical data on complex equipment; influence and persuade engineers, managers and supervisors to adopt major plant actions and the time phasing and consensus and concurrence on major projects and commitments of funds for these facilities. Contacts with contractors, COTR's, other quality assurance engineers, and other personnel are to review quality assurance activities, discuss contractor performance, impart new procedures, change orders, and gather data on specific areas.

Factor 8 - Physical Demands

Recurring evaluations are required at the plant and distribution facilities which include climbing over, under, and around equipment, walking through tunnels, and using catwalks and ladders. Work is also performed in an office setting.

Factor 9 Work Environment
During recurring evaluations in the plant distribution facilities, there is exposure to moderate risks and discomforts such as high temperatures and humidity (particularly in the steam tunnels), noise in the plants, asbestos, chemicals, fly ash, and fuels. In these facilities safety equipment such as hard hats safety shoes and eye protection are worn. Specialized equipment for asbestos may also be required. Work is also performed in an office setting.

Position Classification Standards Used

GS-12